

Department of Aeronautics and Astronautics

Naval Postgraduate School

Faculty Vita

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Education:

Ph.D. The Pennsylvania State University, 1990
MS The Pennsylvania State University, 1989
BS Indian Institute of Technology, 1985

Related Experience (Teaching, Industrial, etc.):

Visiting Associate Professor, Draper Labs, 1999-2001

Institutional and Professional Service (Last 5 Years):

Member, NPS Search Committee for the Associate Provost, 1999
Member, NPS Astronautical Faculty Search Committee, 1998
Member, ISSO/Space Operations Curriculum Committee, 1998-present
Member, NPS Michael J. Smith Chair Professor Search Committee, 1997
Member, NPS Academic Council, 1992-1998
Member, NPS/AIAA Moffett and Smith Awards Committee, 1992-1997
Book Review Editor, Journal of Guidance, Control and Dynamics, 1996-present
Project Lead, NPS PANSAT Satellite in Low-Earth-Orbit, 1993-1997
Chair, NPS Course Review Committee, 1992-95
Member, NPS, Department of Aeronautics and Astronautics, Astronautical Engineering Curriculum Committee, 1995-97

Honors and Awards:

Associate Fellow, American Institute of Aeronautics and Astronautics
Founding Editor of the Book Review Section in the Jour. Of Guid. Control & Dynamics
Outstanding Research Award, Space Systems Engineering, NPS, 1998
Special Award for Excellence in Course Design, NPS, 1996
Outstanding Research Award, Astronautical Engineering, NPS, 1995
Commendation letter from the Provost for excellence in teaching, NPS, 1994
Meritorious Teaching Award, Astronautical Engineering, NPS, 1994
Meritorious Teaching Award, Space Systems Engineering, NPS, 1992

Scientific and Professional Society Membership:

American Institute of Aeronautics and Astronautics
American Astronautical Society

Principal Publications (Last 5 Years):

- Ross, I. M. and Alfriend, K. T., "Low-Earth-Orbit Maintenance: Reboost Versus Thrust-Drag Cancellation," *Journal of Guidance, Control and Dynamics*, vol. 18, no.4, July–August 1995, pp. 930–932.
- Ross, I. M., "Formulation of Stability Conditions for Systems Containing Driven Rotors," *Journal of Guidance, Control and Dynamics*, vol. 19, no. 2, March–April 1996, pp. 305–308.
- Ross, I. M., "An Analysis of First-Order Singular Thrust-Arcs in Rocket Trajectory Optimization," *Acta Astronautica, Journal of the International Academy of Astronautics*, vol. 39, no. 6, September 1996, pp.417–422.
- Ross, I. M., "Extremally Steered Singular Thrust-Arcs for Space Flight in an Atmosphere," *Acta Astronautica, Journal of the International Academy of Astronautics*, vol. 39, no. 8, October 1996, pp. 569–577.
- Ross, I. M., "Extremal Angle of Attack Over a Singular Thrust Arc in Rocket Flight," *Journal of Guidance, Control and Dynamics*, vol. 20, no.2, March–April 1997, pp. 391–393.
- Ross, I. M., "Suboptimal Singular Orbital Transfer," *Journal of Guidance, Control and Dynamics*, vol. 20, no. 3, May–June 1997, pp. 605–607.
- Ross, I. M. and Nicholson, J. C., "Performance and Optimality of the Heating-Rate-Constrained Aerocruise Maneuver," *Journal of Spacecraft and Rockets*, vol. 35, no. 3, May–June 1998, pp. 361–364.
- Park, S.-Y. and Ross, I. M., "Two-Body Optimization for Deflecting Earth-Crossing Asteroids," *Journal of Guidance, Control and Dynamics*, vol. 22, no.3, May–June 1999, pp.415–420.
- Fahroo, F. and Ross, I. M., "A Spectral Patching Method for Direct Trajectory Optimization," *The Journal of the Astronautical Sciences*, vol. 48, no. 2/3, April–September 2000.
- Fahroo, F. and Ross, I. M., "A Second Look at Approximating Differential Inclusions," *Journal of Guidance, Control and Dynamics*, vol.24, no.1, January–February 2001.
- Fahroo, F. and Ross, I. M., "Costate Estimation by a Legendre Pseudospectral Method," *Journal of Guidance, Control and Dynamics*, vol.24, no.2, March–April 2001, pp.270–277.
- Fahroo, F. and Ross, I. M., "Direct Trajectory Optimization by a Chebyshev Pseudospectral Method" (accepted for the *Journal of Guidance, Control and Dynamics*).
- Ross, I. M., Park, S.-Y. and Porter, S. E., "Gravitational Effects of Earth in Optimizing Delta-V for Deflecting Earth-Crossing Asteroids," (accepted for the *Journal of Spacecraft and Rockets*).